<u>IN THE CLAIMS</u>:

Please cancel claims 1-4, 6, 8-10, 73, 75-77 and 95-97 without prejudice, and without dedication or abandonment of the subject matter thereof. Please amend claims 5, 74, 78, 79 and 80 as shown below, in which deleted terms are indicated with strikethrough and/or double brackets, and deleted terms are indicated with underlining. Also, please add new claims 112-114 as shown below.

1- 4. (Cancelled)

5. (Currently amended) The composite structure according to claim [[1]] <u>79</u>, wherein the average crystallite size of the formed structure is 50 nm or less and the compactness thereof is 99% or more.

6 - 73. (Cancelled)

74. (Currently amended) The composite structure according to claim [[73]] <u>5</u>, wherein the crystals forming the structure do not involve grain growth by heat.

75-77. (Cancelled)

78. (Currently amended) The composite structure according to claim [[73]] <u>5</u>, wherein the substrate is one of glass, metal, ceramics and an organic compound.

79. (Currently amended) A composite structure comprising a structure made of at least one of a brittle ceramic material and a brittle metalloid material formed on a substrate surface, wherein the formed structure is polycrystalline, when crystals forming the structure are measured by X-ray diffraction, displacement of the intensity ratio of three peaks of four major peaks of X-ray diffraction data excluding the highest peak is 30% or less in a case where results of the integrated intensity calculation of the three peaks are shown by an intensity ratio where the integrated intensity calculation of the highest peak is 100 and the intensity ratio of JCPDS (ASTM) data of the brittle material is set as a reference, and wherein a boundary layer made of hyaline does not substantially exist on a boundary face between the crystals, and part of the formed structure is an anchor section biting into the substrate surface.

80. (Currently amended) A composite structure comprising a structure made of at least one of a brittle ceramic material and a brittle metalloid material formed on a substrate surface, wherein the formed structure is polycrystalline, when crystals forming the structure are measured by X-ray diffraction, displacement of the intensity ratio of three peaks of four major peaks of X-ray diffraction data excluding the highest peak is 30% or less in a case where results of the integrated intensity calculation of the three peaks are shown by an intensity ratio where the integrated intensity calculation of the highest peak is 100 and results for raw powder are measured by a thin coat optical system are set as a reference of a non-orientation state, and wherein a boundary layer made of hyaline does not substantially exist on a boundary face between the crystals, and part of the formed structure is an anchor section biting into the substrate surface.

81. (Previously presented) A composite structure forming method comprising, after performing a step of creating internal strain in brittle material fine particles, the steps of:

causing the brittle material fine particles in which the internal strain has been created to collide with a substrate surface at high speed;

deforming or fracturing the brittle material fine particles by the impact of this collision;

rejoining the fine particles through an active new surface generated by the deformation or fracture;

forming an anchor section made of polycrystalline brittle material of which part bites into the substrate surface at a boundary section between the new surface and a substrate; and

forming a structure made of the polycrystalline brittle material on the anchor section.

82. (Previously presented) The composite structure forming method according to claim 81, wherein the step of creating the internal strain in the brittle material fine particles involves imparting an impact to the fine particles to such a degree that re-cohesion is not caused.

83. (Previously presented) The composite structure forming method according to claim 81, wherein the internal strain created by the step of applying the internal strain is in a range between 0.25% and 2.0%.

84. (Previously presented) The composite structure forming method according to claim 81, wherein the average size of the brittle material fine particles after the step of creating the internal strain has been performed is $0.1 \sim 5$ μm and the speed of the brittle material fine particles upon collision with the substrate is $50 \sim 450$ m/s.

85. (Previously presented) The composite structure forming method according to claim 81, wherein the average size of the brittle material fine particles after the step of creating the internal strain has been performed is $0.1 \sim 5$ μm and the speed of the brittle material fine particles upon collision with the substrate is $150 \sim 400$ m/s.

86. (Previously presented) The composite structure forming method according to claim 81, wherein this forming method is performed at room temperature.

87. (Previously presented) The composite structure forming method according to claim 81, wherein, after the structure made of the polycrystalline brittle material is formed, the structure is heated at a temperature lower than the melting point of the brittle material for structured control of the crystals.

88. (Previously presented) The composite structure forming method according to claim 81, wherein this forming method is performed under reduced pressure.

89. (Previously presented) The composite structure forming method according to claim 81, wherein the step of causing the brittle material fine particles to collide with the substrate surface at high speed involves ejecting an aerosol containing scattered brittle material fine particles in a gas toward the substrate at high speed.

90. (Previously presented) The composite structure forming method according to claim 89,

including a further step of controlling at least one of a type and a partial pressure of the gas to control a deficiency of elements of a compound forming the structure made of the brittle material.

91. (Previously presented) The composite structure forming method according to claim 89, wherein the partial pressure of oxygen in the gas is controlled to control the oxygen concentration in the structure made of the brittle material.

92. (Previously presented) The composite structure forming method according to claim 89, wherein the brittle material fine particles are formed of an oxide, and the method further includes a step of controlling a partial pressure of oxygen in the gas to form an oxygen deficient layer of the oxide near the boundary face of crystals in the structure made of the brittle material fine particles.

93. (Previously presented) The composite structure forming method according to claim 89, including a further step of controlling at least one of a type and a partial pressure of the gas to control electric properties, mechanical properties, chemical properties, optical properties and magnetic properties of the structure made of the brittle material.

94. (Previously presented) The composite structure forming method according to claim 89, wherein the partial pressure of oxygen in the gas is controlled to control electrical properties, mechanical properties, chemical properties, optical properties and magnetic properties of the structure made of the brittle material.

95 – 97. (Cancelled)

98. (Previously presented) A composite structure formed according to the method of claim 81.

99. (Previously presented) A composite structure formed according to the method of claim 82.

100. (Previously presented) A composite structure formed according to the method of claim 83.

101. (Previously presented) A composite structure formed according to the method of claim 84.

102. (Previously presented) A composite structure formed according to the method of claim 85.

103. (Previously presented) A composite structure formed according to the method of claim 86.

104. (Previously presented) A composite structure formed according to the method of claim 87.

105. (Previously presented) A composite structure formed according to the method of claim 88.

106. (Previously presented) A composite structure formed according to the method of claim 89.

107. (Previously presented) A composite structure formed according to the method of claim 90.

108. (Previously presented) A composite structure formed according to the method of claim 91.

109. (Previously presented) A composite structure formed according to the method of claim 92.

110. (Previously presented) A composite structure formed according to the method of claim 93.

111. (Previously presented) A composite structure formed according to the method of claim 94.

112. (New) The composite structure according to claim 80, wherein the average crystallite size of the formed structure is 50 nm or less and the compactness thereof is 99% or more.

113. (New) The composite structure according to claim 112, wherein the crystals forming the structure do not involve grain growth by heat.

114. (New) The composite structure according to claim 112, wherein the substrate is one of glass, metal, ceramics and an organic compound.